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Distribution of the Mexican saucer bug *Ambrysus signoreti* Stål, 1862 (Heteroptera, Nepomorpha, Naucoridae, Ambrysinae)

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Abstract

The geographic range of the saucer bug *Ambrysus signoreti* Stål, 1862 is reported and mapped for the first time. Results are based on records from approximately 1,700 specimens examined from seven collections. New distribution records are presented from the Mexican states of Coahuila, Hidalgo, Nuevo León, Querétaro, San Luis Potosí, and Tamaulipas. This species is exclusively distributed in the eastern part of Mexico, in the Sierra Madre Oriental, Tamaulipas, and Veracruzan biogeographic provinces.

Keywords

Aquatic insects, creeping water bugs, distribution range, Mexico, new records

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Introduction

The insects in the family Naucoridae are commonly known as saucer bugs or creeping water bugs. Naucorids are common predators in tropical lentic and lotic habitats worldwide, with less representation in temperate regions. The family Naucoridae includes six subfamilies, 43 genera, and close to 420 described species, approximately half of which occur in the Americas. The North American genus *Ambrysus* Stål, 1862 was created for three Mexican species, including *Ambrysus signoreti* Stål, 1862 (Fig. 1). This genus currently comprises 66 described species and four subgenera (*Ambrysus*, *Dissimilis* Reynoso & Sites, 2021, *Grandis* Reynoso & Sites, 2021, and *Syncollus* La Rivers, 1965) (Reynoso-Velasco and Sites 2021), all of which have representatives in Mexico.

Notwithstanding that *A. signoreti* is the type species of the genus, knowledge on the distribution of this species has been limited since the time of its description. Early authors (e.g., Uhler 1876; Champion 1901; Hungerford 1920) reported this species from the southwestern United States (Arizona, California, Colorado, and New México), but La Rivers (1951) clearly stated that those records were based on misidentified specimens belonging to at least four different species (*Ambrysus arizonus* La Rivers, 1951, *A. lunatus* Usinger, 1946, *A. mormon* Montandon, 1909, and particularly *A. occidentalis* La Rivers, 1951). In his revision of the genus *Ambrysus* in the United States (La Rivers 1951), he inaccurately stated that *A. signoreti* had been described from central Mexico. In fact, Stål (1862) did not provide a specific locality for the species in the original description. The provenance of the naucorid species described there has been inferred only from the title of the work, "Hemiptera Mexicana."

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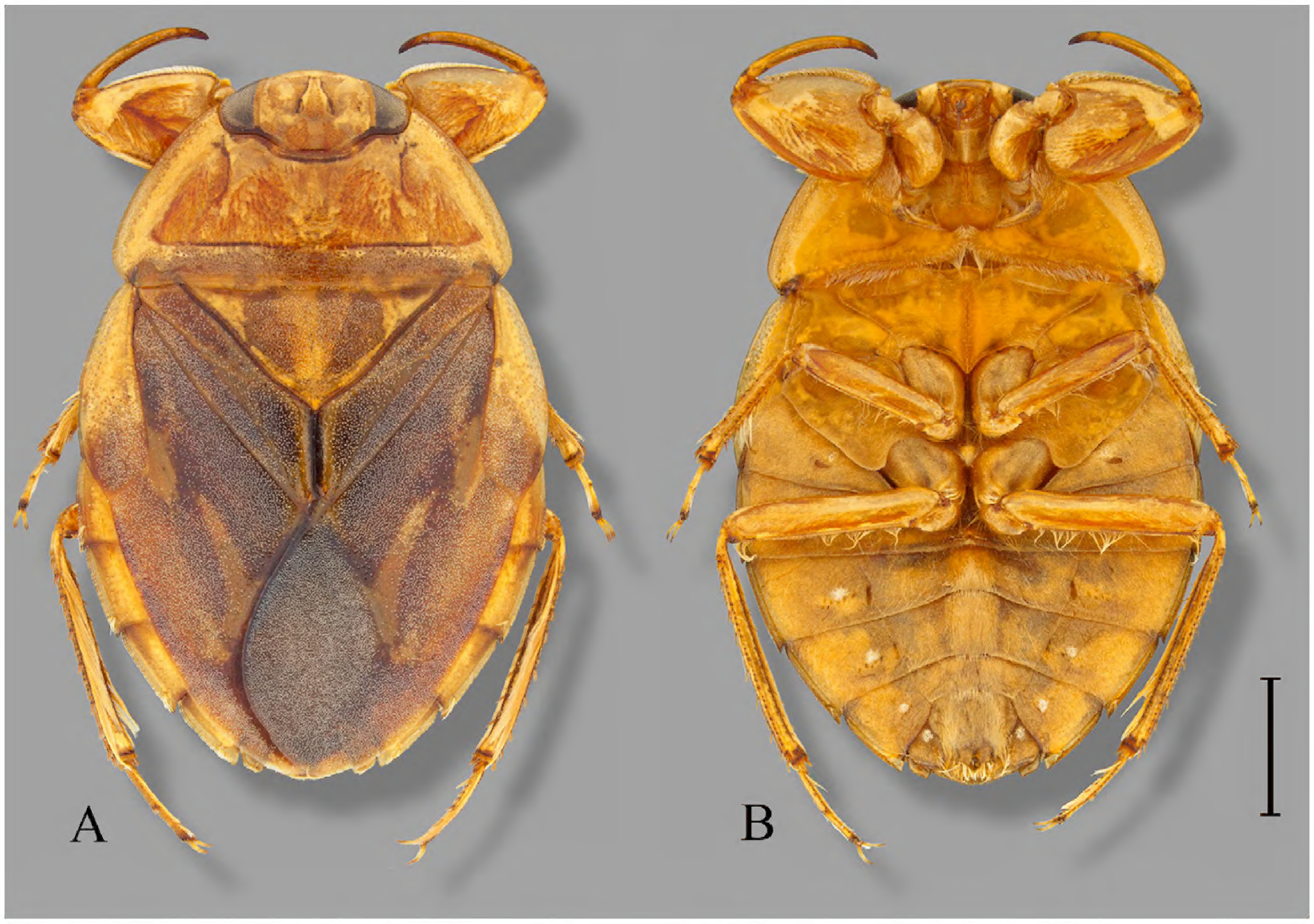

Figure 1. Female *Ambrysus signoreti* Stål. **A.** Dorsal habitus. **B.** Ventral habitus. Scale bar = 3.0 mm.

No further mention on the distribution of the species was made in the study on the *Ambrysus* in Mexico (La Rivers 1953).

It was not until a century and a half after the original description was published that the first specific localities for *A. signoreti* from Mexico where presented. The species was first reported from Río Panhuatlán and Río Calabozo in the states of Puebla and Veracruz, respectively (Reynoso-Velasco and Sites 2018a). Later, it was also reported from Río Santa María in Veracruz (Reynoso-Velasco and Sites 2018b). These three localities are in lowlands east of the Sierra Madre Oriental mountain range, in the east-central part of the country. The present study provides new distribution records for *A. signoreti* from several Mexican states and the range of the species is discussed.

Methods

More than half of the 1,708 specimens examined during this study were collected as part of a large project to clarify and better understand the taxonomy of the species of Naucoridae present in Mexico. Collections were carried out in 432 localities (L-numbers) across the country, including sites in 24 of the 32 Mexican states and all but three of the country's biogeographic provinces (Californian, Baja Californian, and Yucatán Peninsula). Photographs of the collection sites identified as L-numbers are available in a Locality Image Database via a link from the internet site of the Enns Entomology Museum, University of Missouri. The distribution of *A. signoreti* is associated with the Mexican biogeographic provinces presented by Morrone (2019). The records in the distribution map are presented as: red circles (new state records), yellow squares (new locality records based on the material herein examined from the two states where the species had been previously reported), and black triangles (previously published records). The distribution map was prepared using SimpleMappr (Shorthouse 2010).

Images of the species were obtained by use of a Nikon SMZ25 stereomicroscope coupled with the Nikon NIS-Elements Imaging Software at Laboratorio de Entomología "Luis M. Cervantes Peredo" (Instituto de Ecología, A.C.), followed by image preparation with Photoshop CS5 (Adobe Systems Inc., San Jose, California). Information given in brackets [ ] in the Material examined section did not appear on the labels, but was inferred from available data (e.g., collector's field notes) or represents corrections to misspellings on the labels. Specimens are deposited in the museums corresponding with the following acronyms:

CNIN—Colección Nacional de Insectos, Universidad Nacional Autónoma de México (Mexico City, Mexico)

EMEC—Essig Museum of Entomology Collection (Berkeley, USA)

IEXA—Colección Entomológica del Instituto de Ecología, A.C. (Xalapa, Mexico)

UAQE—Colección Entomológica de la Universidad Autónoma de Querétaro (Juriquilla, Mexico)
UMC—University of Missouri (Columbia, USA)
UMMZ—University of Michigan Museum of Zoology (Ann Arbor, USA)
USNM—United States National Museum of Natural History (Washington, DC, USA)

Results

Based on the literature and the material examined for this study, new distribution records of *A. signoreti* are those from the Mexican states of Coahuila, Hidalgo, Nuevo León, Querétaro, San Luis Potosí, and Tamaulipas. Additionally, numerous new locality records are provided from Puebla and Veracruz, the two states where the species had been previously reported. The species is distributed in three Mexican biogeographic provinces: Tamaulipas, Sierra Madre Oriental, and Veracruzan.

Ambrysus signoreti Stål, 1862

Figures 1–3

Material examined. MEXICO – **Coahuila** • [Mpio. Saltillo], Augustura [prob. Ejido Angostura S of Saltillo; 25.3361, −101.0476]; 03.III.1936; 2♂, 1♀ USNM • [Mpio. Saltillo], 14 mi. S of Saltillo; [approx. 25.3287, −101.0750]; 29.VIII.1969; J. Haddock & J.T Doyen leg.; highly calcareous stream; 7♂, 5♀ EMEC • [Mpio. Saltillo], 16 mi. S of Saltillo [approx. 25.2991, −101.0875]; 08.V.1964; CL1112; J.T. Polhemus leg.; 2♂, 2♀ USNM • [Mpio. Saltillo], 20 mi. S of Saltillo; [approx. 25.2881, −101.0916]; 07.VIII. 1963; P.J. Spangler leg.; 2♂, 1♀ USNM – **Hidalgo** • Mpio. Atlapexco, Atlaltipa Huitzotlaco, Río Venado at Pte. Atlaltipa; 21.0368, −098.3735; elev. 158 m; 27.V.2014; L-1796; D. Reynoso leg.; 11♂, 3♀ IEXA • Mpio. Calnali, Sierra Norte; elev. 950 m; 19.IV.2001; R. Novelo leg.; 1♂ IEXA • Mpio. Huejutla de Reyes, Río Caimantla at Huitzquilititla; 21.1111, −098.4568; elev. 203 m; 27.V. 2014; L-1795; D. Reynoso Leg.; 5♂, 5♀ IEXA • Mpio. Mezquititlán, Río Venados at Venados; 20.4730, −098.6810; elev. 1303 m; 05.VI.2013; L-1515; Sites et al. leg.; rocky slow stream w/ heavy algae; 12♂, 11♀ UMC • same locality but D. Reynoso et al. leg.; 13♂, 19♀ UMC • Mpio. Metzquititlán, [Río Venados 2.5 km W of Venados]; 20.4731, −098.6811; elev. 1303 m; 05.VI.2013; R. Novelo leg.; 6♂, 16♀ IEXA• Mpio. San Felipe Orizatlán, Huextetitla, 21.1623, −098.5574; elev. 154 m; 07.VI.2013; L-1525; Sites et al. leg.; stream w/ rocks and algae; 10♂, 10♀ UMC • same locality but D. Reynoso et al. leg.; 8♂ UMC • Mpio. San Felipe Orizatlán, Río San Pedro at San Felipe Orizatlán, 21.1704, −098.5963; elev. 173 m; 07.VI.2013; L-1526; Sites et al. leg.; bedrock with channels, sparse gravel strips, and algae (*Elodea* sp.); 1♂, 3♀ UMC • same locality but D. Reynoso et al. leg.; 3♀ UMC • [Mpio. Tasquillo], Tasquillo; [approx. 20.5607, 099.3095]; 23.VI.1955; R.E. Beer et al. leg.; 2♂ UMC • Mpio. Tlanchinol, 3.4 km W of Chalchocotipa on road to Santa Maria Catzotipan; 21.0434, −098.6002; elev. 528 m; 06.VI.2013; L-1522; D. Reynoso et al. leg.; 21♂, 18♀ UMC • Mpio. Xochiatipan, Nuevo Acatepec, Río El Encinal at Pte. Garces Principal; 20.9399, −098.2819; elev. 201 m; 27.V.2014; L-1797; D. Reynoso leg.; 4♂, 1♀ IEXA • Río Amasa [indeterminate river] 6 mi. W of Huejutla on road to Tamazunchale [approx. 21.1440, −098.5043]; 19.III.1974; R.R. & F.H. Miller leg.; M74-50; 2♀ UMMZ • Río Venados; 08.X.1983; 3♂, 3♀ CNIN; 1♂ USNM • same locality but 06.X.1979; J. Padilla leg.; 1♀ CNIN; 1♀ USNM • same locality but 11.XI.1983; Humberto leg.; 3♂, 1♀ CNIN • same locality but 06.X.1983; M. Albores leg.; 2♂, 1♀ CNIN • same locality but 08.I.1984; 2♂, 1♀ CNIN • same locality but 01.IV.1984; 1♀ CNIN • same locality but 05.VIII.1984; 1♂, 2♀ CNIN • same locality but 14.X.1984; 1♂, 2♀ CNIN – **Nuevo León** • Mpio. Allende, Allende, Río Ramos-Raíces; [approx. 25.2597, −099.9976]; 20.VII. 1990; A. Contreras & A. Niño leg.; 5♀ CNIN • [Mpio. Allende, Arroyo Lazarillos at] Las Cruces; [approx. 25.3382, −100.0693]; 29.III.1986; A. Contreras R. leg.; 1♀ USNM • [Mpio. Apodaca], Apodaca; [approx. 25.7848, −100.1963]; 10.X.1974; J.A. Jiménez leg.; 1♂ UMC • Mpio. Galeana, Ejido El Potosí; [approx. 24.8443, −100.3131]; 11.XI.1985; R. Barba leg.; 1♂, 1♀ CNIN • same locality but S. Tufinio leg.; 1♀ CNIN • Mpio. García, Río Pesquería; [approx. 25.8039, −100.5870]; 08XI.1985; H. Rojas leg.; 3♂, 4♀ CNIN • same locality but R. Barba leg.; 2♂, 3♀ CNIN • same locality but S. Tufinio 1♀ CNIN • Mpio. General Terán, Río El Pilón at La Unión; 25.34089, −099.5826; elev. 243 m; 19.V.2014; L-1775; D. Reynoso leg.; 4♂, 1♀ IEXA • Mpio. [General] Zaragoza, El Salto; [approx. 23.9715, −099.7611]; 27.IV.1975; F. Holguín leg.; 1♀ UMC • [Mpio. Guadalupe], Villa de Guadalupe; [approx. 25.6689, −100.1852]; 02.VI.1977; H.A. Barreras leg.; 2♀ UMC • [Mpio. Iturbide], spring-fed stream 1 mi. E of Iturbide; [approx. 24.7252, −099.8918]; elev. 1400 m; 01.V.1988; CL2344; D.A. & J.T. Polhemus leg.; 3♂, 2♀ USNM • [Mpio. Linares], Río Cabezones 15.5 mi. N of Linares on Rt 85; [approx. 24.9907, −099.7472] elev. 537 m; 26.X.1965; G.E. Ball & D.R. Whitehead leg.; 1♂ USNM • [Mpio. Montemorelos], 17.5 mi. W of Linares; [approx. 24.9907, −099.7471]; 25.V.1981; J.T. Doyen & J.K. Liebherr leg.; 1♀ EMEC • Mpio. Santiago, [Arroyo La Chueca at] El Yerbaniz; [approx. 25.4978, −100.1803]; 18.IV.1986; A. Contreras R. leg.; 1♂, 2♀ USNM • same locality but 27.VI.1987; 2♂, 2♀ USNM • [Mpio. Santiago], diverted stream at La Nogalera near Cola de Caballo [waterfall; approx. 25.3624, −100.1627]; elev. 855 m; 30.IV.1988; CL2344; D.A. & J.T. Polhemus leg.; 1♂, 2♀ USNM • Mpio. Santiago, La Nogalera, ca. 5 mi. W of El Cercado; [approx. 25.3689, −100.1579]; 23.VII.1989; B.J. Nichols leg.; 3♂, 1♀ UMC • Mpio. Santiago, Las Adjuntas; [approx. 25.3007, −100.1414]; 07.XI.1985; A. Contreras R. leg.; 1♂, 2♀ USNM • same locality but R. Barba leg.; 1♀ CNIN • same locality but R. Barba et al. leg.; 22♂, 15♀ CNIN • same locality but 10.XI.1985; 6♂, 3♀ CNIN

• [Mpio. Santiago], Presa La Boca; [approx. 25.4186, −100.1431]; 30.IV.1927; P.A. Hernández leg.; 1♀ UMC; 1♀ USNM • San Pedro, 20 mi. S of Monterrey, Nuevo León creek; 18.XII.1940; B. Schultz & W. McLane leg.; swift creek with many rapids and pools; 2♂, 2♀ UMMZ – **Puebla** • Mpio. Ahuacatlán, 7 km SW of Amixtlán on carr. Tepango-Amixtlán; 20.0108, −097.8269; elev. 1231 m; 04.VI.2012; L-1414; D. Reynoso leg.; 1♂ IEXA • Mpio. Cuetzalan del Progreso, Las Hamacas; 20.0332, −097.4487; elev. 819 m; 03.VI.2012; L-1412; D. Reynoso leg.; 1♂, 1♀ UMC • [Mpio. Jopala, Río Necaxa at] Patla; [approx. 20.2466, −097.8550]; 25.III.1977; H. Brailovsky leg.; 1♀ CNIN • Mpio. San Felipe Tepatlán, Río Tecolutla 5 km N of San Felipe Teplatlán; 20.0959, −097.8043; elev. 364 m; 04.VI.2012; L-1415; D. Reynoso leg.; 11♂, 5♀ IEXA; 9♂, 15♀ UMC • Mpio. Tlacuilotepec, Río San Marcos at km 1 carr. 130 A. Camacho-Petlacotla; 20.4080, −097.8915; elev. 280 m; 24.VII.1987; R. Novelo leg.; 3♂, 4♀ IEXA • Mpio. Tlacuilotepec, 2 km E of Papaloctipan; 20.4229, −097.9439; elev. 310 m; 05.VI. 2012; L-1417; D. Reynoso leg.; 3♂, 3♀ UMC • Mpio. Tlaxco, Río Los Cajones ca. 2 km S of Acalman; 20.4074, −098.0643; elev. 785 m; 05.VI.2012; L-1418; D. Reynoso leg.; 3♂, 3♀ UMC • Mpio. Xicotepec, Villa Ávila Camacho (La Ceiba), Río San Marcos at Pte. San Marcos, 20.3944, −097.8775; elev. 239 m; 30.IV.1991; R. Novelo leg.; 2♀ IEXA •same locality but 05.VI.2012; L-1416; D. Reynoso leg.; 15♂, 11♀ IEXA; 17♂, 23♀ UMC • Mpio. Zapotitlán de Méndez, Río Zempoala at Zapotitlán; 20.0038, −097.7240; elev. 671 m; 03.VI.2012; L-1413; D. Reynoso leg.; 8♂, 7♀ UMC – **Querétaro** • [Mpio. Arroyo Seco], Ayutla, Río Ayutla; [approx. 21.3938, −099.5824]; 14.VII.2000; W.D. Shepard leg.; WDS-A-1331; 2♂, 2♀ UMC • Mpio. Arroyo Seco, Concá, Río Santa Maria near Cascada Concá; 21.4382, −099.6397; elev. 556 m; 14.V.2014; L-1759; D. Reynoso leg.; 2♂, 1♀ IEXA • Mpio. Arroyo Seco, Las Adjuntas, Río Santa Maria at Pte. Ayutla; 21.3973, −099.5814; elev. 511 m; 14.V.2014; L-1758; D. Reynoso leg.; 14 ♂, 15♀ IEXA • Mpio. Arroyo Seco, [Río Jalpan at] km 16 carr. Jalpan-Arroyo Seco, near El Trapiche; 21.3323, −099.5269; elev. 650 m; 14.V.2014; L-1757; D. Reynoso leg.; 21♂, 30♀ IEXA • Mpio. Arroyo Seco, Río Jalpan at El Trapiche; 21.5883, −099.6997; elev. 853 m; 15.XI.1997; G. Aguilar leg.; 1♀ UAQE • Mpio. Jalpan [de Serra], Río Sta. María; 14.X.2000; Y. Rico & B. Domínguez leg.; 1♀ UAQE • Mpio. Peñamiller, [Arroyo Higuerillas at] El Oasis; 21.00, −099.[70]; elev. 1050 m; 20.I.1999; P. Alonso leg.; Amb. Lótico; 1♂ UAQE • same locality but 29.V.2009; E. Hurtado leg.; 1♀ UAQE • [Mpio. Peñamiller], Peña Blanca; 06.XI.1997; G. Ortega & E. Barrera leg.; 1♀ CNIN • same locality but Río Extóraz; 21.0313, −099.7405; elev. 1256 m; 13.V.2014; L-1752; D. Reynoso leg.; 16♂, 6♀ IEXA • [Mpio. Peñamiller], Río Extóraz at Peñamiller; [approx. 21.0479, −099.8161]; 22.III.2012; Durán leg.; 1♀ UAQE • Mpio. Peñamiller, [Río Victoria] 1 km S San Miguel Palmas; 21.0869, −099.9528; 09.VII.2000; R. Jones leg.; 7♀ UAQE • Mpio. Pinal de Amoles, Cañón de la Angostura, Río Escanela; 21.1966, −099.6053; elev. 1241 m; 13.V.2014; L-1753; D. Reynoso leg.; 1♀ IEXA • [Mpio. Pinal de Amoles], Río Extóraz at Bucareli; [approx. 21.0347, −099.6175]; 01.VII.2000; W.D. Shepard leg.; WDS-A-1325; 12♂, 12♀ UMC • same locality but elev. 1300 m; 10.VII.2000; R. Jones leg.; 2♂, 1♀ UAQE • Mpio. Pinal de Amoles, [Río Jalpan at] Escanelilla; 21.2018, −099.5670; elev. 1152 m; 14.V.2014; L-1756; D. Reynoso leg.; 1♂ IEXA – **San Luis Potosí** • Mpio. Aquismón, Río Tampaón at Tanchachín; 21.8224, −099.1484; elev. 309 m; 24.V.2014; L-1794; D. Reynoso leg.; 19♂, 12♀ IEXA • Mpio. Aquismón, Santa Anita, Arroyo El Nacimiento at Pte. El Nacimiento; 21.9756, −099.1914; elev. 177 m; 06.VII.2004; R. Novelo leg.; pond; 1♂ UMC • same locality but 24.V.2014; L-1792; D. Reynoso leg.; 3♂, 2♀ UMC • Mpio. Axtla de Terrazas, Cómoca, Río Tancuilín; 21.4175, −098.8950; elev. 86 m; 08.VI.2013; L-1532; D. Reynoso et al. leg; 3♀ UMC • Mpio. Cárdenas, Canoas, La Poza Azul; 21.9512, −099.5107; elev. 969 m; 09.VI.2013; L-1536; Sites et al. leg.; vegetated stream below dam; 5♂, 3♀ UMC • Mpio. Huehuetlán, El Nacimiento de Huichihuayán; 21.4598, −098.9774; elev. 96 m; 08.VI.2013; L-1533; Sites et al. leg.; spring-fed cold stream with cobble; 11♂, 18♀ UMC • same locality but D. Reynoso et al. leg.; 2♀ UMC • [Mpio. El Naranjo]; El Salto Falls; [approx. 22.5863, −099.3835]; 16.VI.1955; R.E. Beer et al. leg.; 1♀ UMC • Mpio. El Naranjo, Río El Salto at El Meco; 22.5662, −099.3532; elev. 326 m; 10.VI.2013; L-1539; Sites et al. leg.; vegetated margin of limestone stream; 1♂ UMC • Mpio. Matlapa, Río Tancuilín at Tancuilín (Los Manantiales); 21.3458, −098.8627; elev. 113 m; 07.VI.2013; L-1530; D. Reynoso et al. leg.; 15♂, 14♀ UMC • Mpio. San Vicente Tancuayalab, Ejido El Álamo, Río Moctezuma; 21.7197, −098.5546; elev. 32 m; 10.VI.2013; L-1540; Sites et al. leg.; vegetated margins and cobble riffle; 3♂, 1♀ UMC • same locality but D. Reynoso et al. leg.; 2♂ UMC • Mpio. Tamazunchale, Río Moctezuma at Tamazunchale; 21.2577, −098.8057; elev. 128 m; 07.VI.2013; L-1529; Sites et al. leg.; side channel w/ cascades, gravel, and vegetation; 2♀ UMC • same locality but D. Reynoso et al. leg.; 1♂ IEXA; 1♂, 1♀ UMC • [Mpio. Tamazunchale] Tamazunchale; 22.VI.1953; Slesnick leg.; 1♀ USNM – **Tamaulipas** • [Mpio. Gómez Farias], Gómez Farias; [approx. 22.8861, −099.0125]; 05.X.1985; F. Arias leg.; 2♂, 1♀ CNIN • same locality but M. García leg.; 1♂ CNIN • same locality but L. Cervantes leg.; 2♂, 1♀ CNIN; 1♂, 1♀ USNM • Mpio. Güemes, Río Corona ca. 6 km W of Estación Santa Engracia; 24.0087, −099.1678; elev. 216 m; 21.V.2014; L-1782; D. Reynoso leg.; 14♂, 12♀ IEXA • Mpio. Jaumave, Río Guayalejo [2.5 km SE of] San José de Salamanca; 23.4541, −099.2824; elev. 569 m; 22.V.2014; L-1784; D. Reynoso leg.; 3♂, 8♀ IEXA • Mpio. Jaumave, Río Guayalejo ca. 4 km S of Jaumave (toward Padrón y Juarez); 23.3726, −099.3965; elev. 767 m; 22.V.2014; L-1785; D. Reynoso leg.; 4♀ IEXA • Mpio. Padilla, Río Purificación at El Barretal; 24.0779, −099.1420; elev. 205

m; 21.V.2014. L-1780; D. Reynoso leg.; 23♂, 18♀ IEXA – **Veracruz** • [Mpio. Álamo Temapache, Arroyo Buena Vista] at bridge on Hwy 127, 1.3 mi. W of jct. with Hwy 180 to Tampico, and ca. 2 mi. NW of Potrero del Llano; [21.0996, −097.7477]; 16.XII.1972; R.R. Miller et al. leg.; 1♂, 2♀ UMMZ • [Mpio. Atzalán], El Filo, Río Filobobos; [approx. 19.9278, −097.1636]; 08.XI.2009; R. Novelo leg.; 29♂, 16♀ IEXA • same locality but elev. 263 m; L. Cervantes et al. leg.; 1♀ CNIN • [Mpio. Atzalán, Río Alseseca at]; Pte. Tomata; [19.9223, −097.2231]; 12.VII.2002; R. Novelo leg.; 1♀ IEXA • same locality but elev. 500 m; 06.IV.2011; L-1296; Sites et al. leg.; rootmats and gravel riffles; 1♀ UMC • same locality but 19.9210, −097.2245; elev. 514 m; 13.VI.2013; L-1549; Sites et al. leg.; rock and gravel riffles and marginal vegetation; 17♂, 15♀ UMC • same locality but D. Reynoso et al. leg.; 4♀ UMC • Mpio. Atzalán, Río Alseseca at Parque Ecoturístico El Pezma; 19.9123, −097.2245; elev. 541 m; 13.VI.2013; L-1550; Sites et al. leg.; high velocity river w/ cascades; 1♀ UMC • [Mpio. Catemaco] Río Cuetzalapan 2 mi. E Lago Catemaco; [approx. 18.3653, −094.9950]; 12.VII–08.VIII.1964; J.R. Meyer leg.; 1♀ USNM • Mpio. Citlaltepec, Citlaltepec; 21.3299, −097.8834; elev. 194 m; 11.VI.2013; L-1544; D. Reynoso et al. leg.; 2♂, 1♀ IEXA; 3♂, 2♀ UMC •[Mpio. Cotaxtla], Río Blanco [at Puente Río Blanco, 2 km S of La Tinaja; 18.7418, −096.4561; 04.I.1971]; CL504; M.S. & J.T. Polhemus leg.; 2♂, 2♀ USNM • Mpio. Ixhuatlán de Madero, Río Vinazco at Naranjo Dulce; 20.8236, −097.9220; elev. 86 m; 27.V.2014; L-1798; D. Reynoso leg.; 20♂, 38♀ IEXA; 3♂ UMC • Mpio. Misantla, Río Chapachapa at Pte. Chapachapa; 19.9701, −096.8854; elev. 121 m; 14.VI.2013; L-1554; D. Reynoso et al. leg.; 7♂, 1♀ UMC • Mpio. Misantla, Río Kilate at Libertad, 20.0517, −096.9776; elev. 61 m; 14.VI.2013; L-1552; Sites et al. leg.; rocky stream w/ algae; 6♂, 6♀ UMC • same locality but D. Reynoso et al. leg.; 8♂, 2♀ IEXA; 32♂, 30♀ UMC • Mpio. Misantla, ca. 2 km E of Libertad; 20.0665, −096.9563; elev. 56 m; 14.VI.2013; L-1553; D. Reynoso et al. leg.; 1♂, 1♀ UMC • [Mpio. Orizaba], Orizaba; 10.XII.1973; CL603; J.T. Polhemus leg.; 1♂ USNM • Mpio. Puente Nacional, Puente Nacional, Río La Antigua at Pte. Puente Nacional I; 19.3246, −096.4818; elev. 67 m; 29.V.2014; L-1801; D. Reynoso leg.; 10♂, 8♀ IEXA • [Mpio. Puente Nacional; Río La Antigua at bridge N of] Conejos; [approx. 19.3242, −096.4824]; 06.I.1971; CL515; M.S. & J.T. Polhemus leg.; 1♀ USNM • Mpio. Santa Maria, 1 km W of Ixcatepec on road to Naranjos, Pte. Pepeyuca, 21.2251, −097.9913; elev. 166 m; 11.VI.2013; L-1542; Site et al. leg.; rock trickles btw pools w/ vegetation and heavy algae; 1♀ UMC • same locality but D. Reynoso et al. leg.; 5♂, 3♀ IEXA • Mpio. Santa. Maria, 4 km W of Citlaltepec, 21.2905, −097.9158; elev. 223 m; 11.VI.2013; L-1543; Sites et al. leg.; 33♂, 30♀ UMC • same locality but D. Reynoso et al. leg.; 23♂, 17♀ UMC • [Mpio. Soteapan], Ocotal Chico; [approx. 18.2565, −094.8565]; 04.V.85; H. Velasco leg.; 3♂, 3♀ CNIN • same locality but M. Vértiz leg.; 2♂, 1♀ CNIN • same locality but F. Arias leg.; 2♀ CNIN • Mpio. Tantoyuca, Platon Sánchez, Río Calabozo; 21.2856, −098.3774; elev. 41 m; 06.VI.2013; L-1524; D. Reynoso et al. leg; 1♂, 4♀ UMC • [Mpio. Tantoyuca, Río Calabozo], 15 mi. S of Tempoal, [21.2918, −098.3565]; 08-I-1971; CL524; J.T. & M.S. Polhemus leg.; 1♂, 3♀ USNM • Mpio. Tlapacoyan, El Encanto, Río Filobobos; 08.XI.2009; R. Novelo leg.; 1♂, 6♀ IEXA • same locality but 19.9836, −097.1692; elev. 178 m; L-1123; Sites et al. leg.; 4♂, 7♀ UMC • Mpio. Tlapacoyan, Río Filobobos; 19.9276, −097.1627; elev. 267 m; 08.XI.2009; L-1124; Sites et al. leg.; 131♂, 72♀ UMC • same locality but; 19.9277, −097.1626; elev. 281 m; 14.VI.2013; L-1551; Sites et al. leg.; gravel and rocky stream w/ algae and marg. veg.; 5♂, 8♀ UMC • same locality but D. Reynoso et al. leg.; 83♂, 86♀ UMC; 8♂, 10♀ IEXA • same locality but R. Novelo leg.; 2♂, 5♀ IEXA • Mpio. Tlapacoyan, Rojo Gómez, Río Filobobos; 20.0449, −097.0940; elev. 89 m; 12.VI.2013; L-1548; D. Reynoso et al. leg.; 2♀ UMC • [Mpio. Tlapacoyan], Tlapacoyan; 13.IX.1986; E. Barrera leg.; 4♀ CNIN • same locality but E. Barrera & H. Brailovsky leg.; 1♂, 1♀ CNIN • [Mpio. Tlapacoyan], Tlapacoyan, Río Tomata [Río Alseseca; approx. 19.9219, −097.2236]; 02.VII.1985; M. Espinosa leg. 2♂ CNIN • same locality but 03.VII.1985 1♀ CNIN.

Identification. Similar to other species in this genus, the most important diagnostic feature to identify specimens belonging to *Ambrysus signoreti* is the shape of mediosternite VII or subgenital plate (SGP) in females. The SGP exhibits lateral lobes almost at mid-length of the lateral margins. The left lateral lobe is slightly more developed than that on the right margin. Also, the apical part of the left lateral lobe is faintly deflexed ventrally. The posterolateral corners are pointed and almost at the same level than the broadly rounded and bilobate central lobe (Fig. 2).

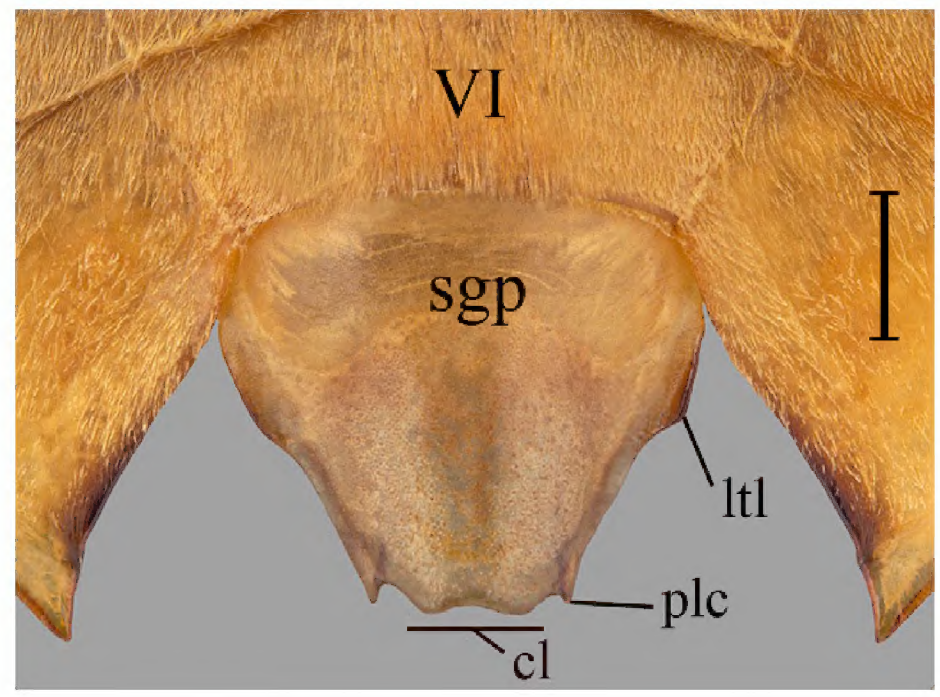

Figure 2. Female *Ambrysus signoreti* Stål sternum VI and subgenital plate (setation and terminal abdominal segments removed). cl = central lobe, ltl = lateral lobe, plc = posterolateral corner, sgp = subgenital plate. Scale bar = 0.5 mm.

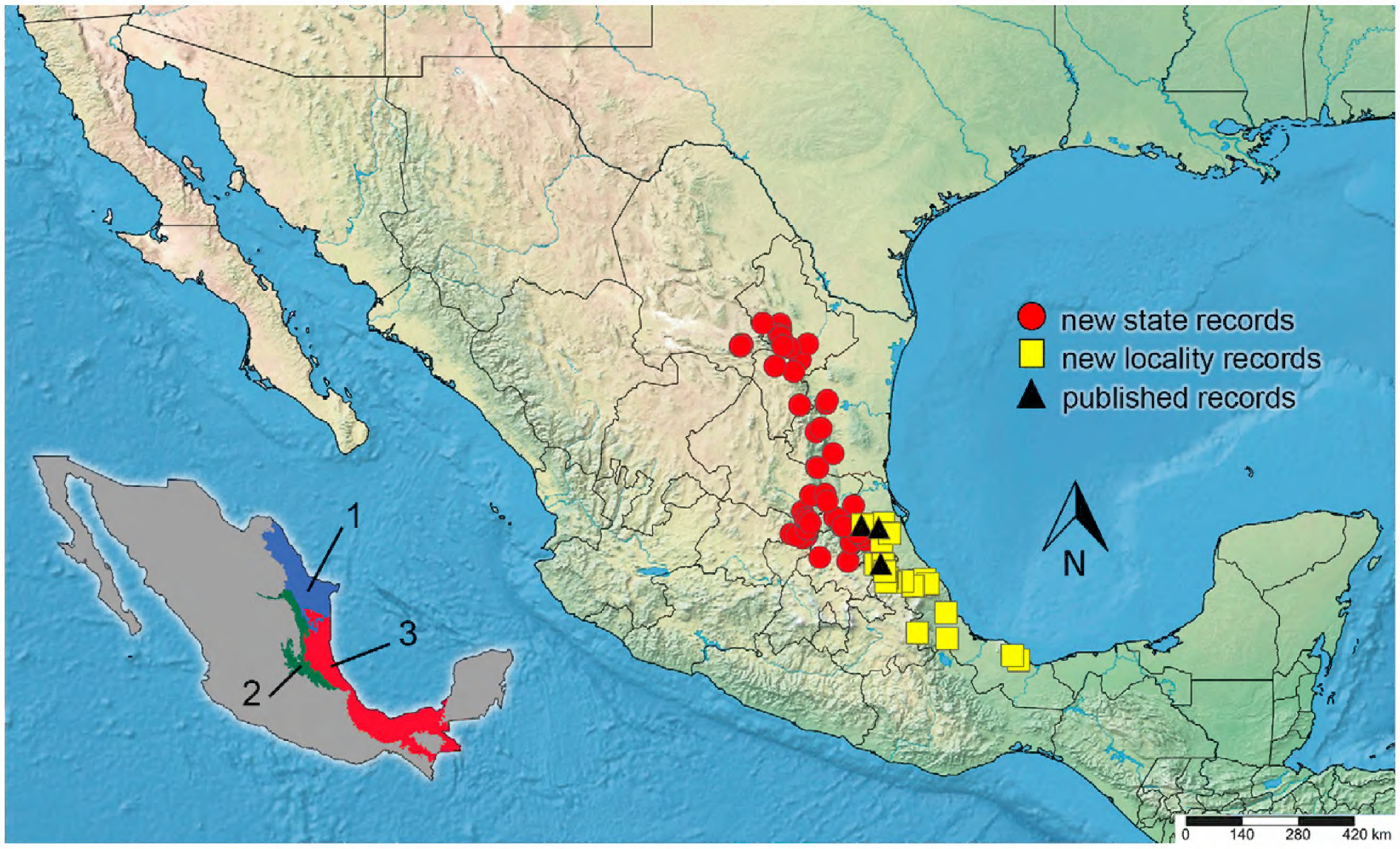

Figure 3. Distribution of *Ambrysus signoreti* Stål. Inset showing Tamaulipas (1), Sierra Madre Oriental (2), and Veracruzan (3) biogeographic provinces.

Distribution. Mexico: Coahuila, Hidalgo, Nuevo León, Puebla, Querétaro, San Luis Potosí, Tamaulipas, and Veracruz (Fig. 3).

Discussion

The purpose of the present study was to obtain a better understanding of the distribution of the saucer bug *Ambrysus signoreti* because previous records from the southwestern United States and central Mexico are erroneous and only three specific localities have been recently reported in the literature. Based on the results of this study, *A. signoreti* is exclusively distributed in the eastern part of Mexico (Fig. 3).

The species presents a distribution that includes rivers in the Sierra Madre Oriental and parts of the Tamaulipas (southwestern section) and Veracruzan (upper section) biogeographic provinces; at elevations ranging from 30 to 2,000 m. The great majority of localities are below 1,000 m and those with the highest elevation are from Querétaro (1,000–1,500 m) and Coahuila (>1,800 m). Most of the records are from localities in the Sierra Madre Oriental biogeographic province, along the lowlands of its elongate valleys. The northern limit of the species distribution seems to be in Coahuila and Nuevo León, in the area where the northernmost border of the Sierra Madre Oriental and the southwestern limit of the Tamaulipas province come together. In the south, the limit seems to be the Coatzacoalcos River Basin, in the central section of the Veracruzan province; thus, the species is probably not distributed south of the Tehuantepec Isthmus. Based on personal experience, this is one of the few Mexican species of *Ambrysus* than can be found in limestone streams.

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